REMARKS

Reconsideration of the above-identified application in view of the amendment above and the remarks below is respectfully requested.

Claim 8 has been canceled in this paper. No claims have been amended or added in this paper. Therefore, claims 6-7 are pending and are under active consideration.

Claims 6-8 stand rejected under 35 U.S.C. 103(a) "as being unpatentable over Hayka et al (US 5,688,118) in view of [Azerad et al. (US 2004/0091845).]" In support of the rejection, the Patent Office states the following:

> Regarding claim 6, Hayka discloses a simulation system for dentistry wherein forces can be exerted on a tooth secured in a model of a jaw using a tool in order to examine or work on the tooth (See Col. 6, 33-39). Hayka further discloses a single sensor measuring device fixed underneath the model of the jaw (See Col. 11, 24-37) constructed as six-component force-moment sensor (See Col. 9, 16-56), Wherein the components of force (the resistance of the region that is being drilled) is transferred to the processing unit (e.g. display unit 68). The data processor further comprises a memory (See Fig. 4 and Col. 10, 9-59). Hayka does not explicitly disclose that the forces are converted into electrical measuring signals. However, Hayka discloses that both mechanical and electrical sensors can be used to simulate the region of a tooth being drilled. Therefore, Hayka inherently includes electrical measuring signals.
>
> Hayka does not specifically disclose a plurality of reference-force-time curves of different dental treatment steps. However Azerad et al. discloses such in P.3, [0052]. Therefore it would have been obvious to one of ordinary skill in the art to incorporate the features of Azerad's invention into the system and method of Hayka in order to design a system that better simulates the treatment of an actual tooth.
>
> Regarding claim 7, Azerad further discloses acoustic signal patterns stored in correlation with the measured force/time course are retrieved and displayed by an acoustic display unit, wherein the multitude of sound samples are stored in the data memory in which case by means of a program subject to the actual force/time course of

> the simulated tooth treatment a sound sample belonging to it can be displayed (See P. 4, [0073]).
>
> Regarding claim 8, Azerad further discloses at least one force measuring device that is arranged at the tool and formed to measure the force applied by the tool and further a control and correction program (e.g. LP and LU) is provided which calculates a measured value correction of the forces measured at the tooth or at the mandible (See Fig. 2B).

In addition, later in the Office Action, the Patent Office states the following:

> Applicant's arguments filed 11/23/2007 with regards to the Azerad's reference have been fully considered but they are not persuasive. The applicant argues that the Azerad does not disclose reference force-time curves of different dental treatments. The examiner notes that the force-time curves are essentially the same as force feedback systems. They both measure the hand feeling of the hardness of the region of the tooth that is being treated.

Insofar as the subject rejection relates to claim 8, the rejection is moot in view of Applicants' cancellation herein of claim 8. Insofar as the subject rejection relates to claims 6-7, Applicants respectfully traverse the subject rejection.

As noted in the present specification, for example, on page 2, lines 31-34, it is an object of the present invention to provide a dentistry training device by means of which force-determined operations, either with a tool or without a tool, can be practiced on a tooth or on a mandible. In accordance with the teachings of the present invention, such a dentistry training device involves a jaw model that is fixed to a single sensor, which sensor is constructed as a six-component force-moment sensor and sends measuring signals to a data processor. The measuring signals are imaged as forces according to their magnitude and direction in the data processor. Furthermore, the data processor comprises a data memory in which a plurality of reference-force-time curves of different dental treatment steps are stored as a table of values that can be called up. In addition, a program is

provided, which controls the data processor such that a selected reference-force-time curve and the actual force-time curve of the simulated dental treatment can be represented on an optical display.

Hayka et al. is also directed at a dentistry training device. However, in contrast with the claimed dentistry training device, the dentistry training device of Hayka et al. is not designed to generate force-time curves for the forces exerted by a user on a jaw model and then to display these force-time curves with reference force-time curves. **This is because Hayka et al. is designed simply to provide a user with a simulation as to what a drill will feel like as the drill penetrates different layers of a tooth, as opposed to testing the user's use of the drill and providing feedback as to how the user's use differed from proper use of the drill**. For example, the device of Hayka et al. automatically controls the speed at which a drill rotates based on the position and orientation of the drill. Since the speed of rotation of the drill dictates the sound and hand-feeling associated with its rotation, a sound and hand-feeling simulation of drilling a real tooth, having layers and structures of different hardness, is thus achieved.

Azerad et al. is also directed at a dentistry training device but fails to cure all of the above-noted deficiencies of Hayka et al. This is, in part, because the device of Azerad et al. is not designed to be used by contacting a drill or other hand tool with an actual object. In other words, in Azerad et al., there is no physical interaction between the hand tool and a tooth, be it real or artificial. Instead, Azerad et al. is designed to simulate use of a hand tool with a virtual object. It is a principal teaching of Azerad et al. that a virtual object, as opposed to a real object, be used. In fact, Azerad et al. specifically discusses Hayka et al. and points out that the use of a virtual object is an improvement over Hayka et al.

As noted above, claim 1 of the present application is directed at a device in which, amongst other things, forces exerted on an actual object are measured, force-time curves for these forces are obtained, and these force-time curves are displayed with reference force-time curves. In view of the fact that the device of Hayka et al. is not intended to compare a user's force against an object to a reference force against the object and that the device of Azerad et al. does not even involve contacting a hand tool with an actual object, Applicants respectfully submit that one of ordinary skill in the art would not have been motivated to modify the device of Hayka et al. in the manner proposed by the Patent Office.

Moreover, the system of Hayka et al. comprises a base system 50, which is designated as a minimum configuration (see Hayka et al. at col. 9, lines 1-2; at col. 10, line 3; and at col. 11, lines 38-39). A "dental hand-piece 52" is always part of this base system. According to its minimal configuration, the base system 50 of Hayka et al. also includes a first three-dimensional sensor 62 attached to the dental hand-piece 52 (see Hayka et al. at col. 9, lines 4-6).

This base system 50 of Hayka et al. is the actual invention of Hayka et al., which, according to some preferred configurations, is used to train dentistry trainees.

Therefore, the hand-piece is the crux of the invention of Hayka et al. This fact is clearly recognizable from claims 1, 5, 6, 8, 9, 10, 14, 16, 19, 20 and 23, with the hand-piece 52 and the first three-dimensional sensor 62 always being claimed in each of them.

In addition, the description of the invention in Hayka et al. gives directions in which the function of the base system 50 can be extended. For example, it is proposed in Hayka et al. to couple a mirror 92 to the base system 50, which comprises a second three-dimensional sensor 94.

Furthermore, it is proposed to add a platform 51 to the base system 50, on which a third three-dimensional sensor 57 is arranged.

Thus, it is clear that, in Hayka et al., neither the mirror 92 nor the platform 51 is suited to take over the function of the base system 50. Furthermore, Hayka et al. does not give any direction to use the mirror or the platform 51 as an independent device in any way.

Furthermore, Azerad et al. does not give directions for a person of ordinary skill in the art to use the platform 51 as a simulation system for dentistry.

Accordingly, for at least the above reasons, the subject rejection should be withdrawn.

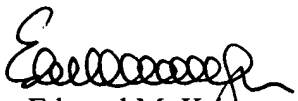
In conclusion, it is respectfully submitted that the present application is in condition for allowance. Prompt and favorable action is earnestly solicited.

If there are any fees due in connection with the filing of this paper that are not accounted for, the Examiner is authorized to charge the fees to our Deposit Account No. 11-1755. If a fee is

required for an extension of time under 37 C.F.R. 1.136 that is not accounted for already, such an extension of time is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

Kriegsman & Kriegsman

By: 

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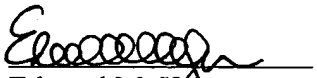

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